

GNRO-2007/00050

August 7, 2007

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

**Subject:** Supplemental Information for Licensing Amendment Request  
Pertaining to Control Room Envelope Habitability  
Grand Gulf Nuclear Station, Unit 1  
Docket No. 50-416  
License No. NPF-29

**Reference:** GNRO-2007/00040 - License Amendment Request  
Control Room Envelope Habitability in Accordance with TSTF-448,  
Revision 3, Using the Consolidated Line Item Improvement Process,  
dated June 17, 2007

Dear Sir or Madam:

On July 17, 2007, Entergy Operations, Inc. filed an application to amend the operating license for Grand Gulf Nuclear Station, Unit 1 (GGNS) (above Reference). The proposed amendment would modify the Technical Specification related to Control Room Envelope Habitability in accordance with TSTF-448, Revision 3 under the Consolidated Line Item Improvement Program. This letter provides supplemental information to clarify and correct certain items in the application.

Attachment 1 revises the description and assessment on affected pages from the above referenced submittal. The changes are noted with change bars in the right hand column. Attachment 2 provides certain replacement pages for the affected Technical Specification and Operating License Condition pages.

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If you have any questions or require additional information, please contact Matt Crawford at 601-437-2334.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 7, 2007.

Sincerely,



Arthur D. Barfield  
Director, Nuclear Safety Assurance

MLC/amm

Attachments:

1. Description and Assessment (Markup)
2. Technical Specification and Operating License Condition (Markup)

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**Attachment 1**

**GNRO-2007/00050**

**Description and Assessment (Markup)**

## 1.0 DESCRIPTION

This letter is a request to amend Operating License NPF-29 for Grand Gulf Nuclear Station, Unit 1 (GGNS).

The proposed amendment would modify Technical Specification (TS) requirements related to control room envelope habitability in TS 3.7.3, "Control Room Fresh Air (CRFA) System" and TS Section 5.5, "Programs and Manuals."

The changes are consistent with the Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) STS change TSTF-448 Revision 3. The availability of the TS improvement was published in the *Federal Register* on January 17, 2007 (FR 72 2022) as part of the Consolidated Line Item Improvement Process (CLIIP).

## 2.0 ASSESSMENT

### 2.1 Applicability of Published Safety Evaluation

Entergy has reviewed the safety evaluation dated January 17, 2007 as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF-448. Entergy has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC are applicable to GGNS and justify this amendment for the incorporation of the changes to the GGNS TS.

### 2.2 Optional Changes and Variations

Entergy is not proposing any significant variations or deviations from the TS changes described in the TSTF-448, Revision 3, or the applicable parts of the NRC staff's model safety evaluation dated January 17, 2007. In order to establish standard terminology, "control room envelope" is used in place of "control room." Also the affected TS for GGNS is "3.7.3, Control Room Fresh Air (CRFA) System" instead of "3.7.10, Control Room Envelope Emergency Ventilation System (CREEVS)" referenced in the model SE. The parts of Section 3.0 "Technical Evaluation," of the model Safety Evaluation (SE) that are applicable to GGNS are Evaluations 2 and 5. Certain TS changes and associated SE discussions are not applicable to GGNS as discussed below.

1. The TS changes and associated model SE discussions that apply to a pressurized Control Room Envelope are not applicable to GGNS because the facility does not have a pressurized control room.
2. Evaluation 5 discusses adding a new condition to Action F which applies "during movement of [recently] irradiated fuel assemblies in the [[primary or] secondary] containment or during operations with a potential for draining the reactor vessel (OPDRVs)." This new condition in the GGNS proposed change only applies during OPDRVs because the current TS 3.7.3, "Control Room Fresh Air (CRFA) System," does not require the CRFA subsystems to be operable during the movement of irradiated or recently irradiated fuel assemblies. This deviation from the Standard TS, NUREG-1434, was previously approved by the NRC by Amendment 145 (Reference ADAMS Accession No. ML010780172).

Thus, the new condition to Action F for 3.7.3 will read as follows:  
"One or more CRFA subsystems inoperable due to an inoperable CRE boundary during operations with a potential for draining the reactor vessel (OPDRVs)."

### 2.3 License Condition Regarding Initial Performance of New Surveillance and Assessment Requirements

Entergy proposes the following as a license condition to support implementation of the proposed TS changes. In subpart (a) of the license condition below, Entergy provides a surveillance grace period as allowed by SR 3.0.2 of 18 months, which differs from the model application value of 15 months. This discrepancy was noted in an NRC Memorandum memorandum from C. Craig Harbuck to Timothy J. Kobetz, dated February 2, 2007 (ADAMS Accession Number ML070330657).

Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of Control Room Envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.4, in accordance with TS 5.5.13.c.(i), and the assessment of CRE habitability as required by Specification 5.5.13.c.(ii), shall be considered met. Following implementation:

- (a) The first performance of SR 3.7.3.4, in accordance with Specification 5.5.13.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from March 2005, the date of the most recent successful tracer gas test, as stated in the June 30, 2005 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
- (b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.13.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from March, 2005, the date of the most recent successful tracer gas test, as stated in the June 30, 2005 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.

## 3.0 Regulatory Analysis

### 3.1 No Significant Hazards Consideration Determination

Entergy has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the *Federal Register* on January 17, 2007 (FR 72 2022) as part of the CLIP. Entergy has concluded that the proposed NSHCD presented in the *Federal Register* notice (FR 72 2022) is applicable to GGNS and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

#### 4.0 Environmental Evaluation

Entergy has reviewed the environmental evaluation included in the model safety evaluation dated January 17, 2007 as part of the CLIP. Entergy has concluded that the staff's findings presented in that evaluation are applicable to GGNS and the evaluation is hereby incorporated by reference for this application.

The proposed changes have been evaluated to determine whether applicable regulations and requirements continue to be met. Entergy has determined that the proposed changes do not require any exemptions or relief from regulatory requirements, other than the TS, and do not affect conformance with any General Design Criterion (GDC) differently than described in the Updated Final Safety Analysis Report (UFSAR).

**Attachment 2**

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**Technical Specification and Operating License Condition (Mark-up)**

### 3.7 PLANT SYSTEM

#### 3.7.3 Control Room Fresh Air (CRFA) System

LC0 3.7.3 Two CRFA subsystems shall be OPERABLE.

#### NOTE

The control room envelope (CRE) boundary may be opened intermittently under administrative control

APPLICABILITY: MODES 1, 2, and 3,  
During operations with a potential for draining the reactor vessel (OPDRVs).

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CRFA subsystem inoperable for reasons other than Condition B.	A.1 Restore CRFA subsystem to OPERABLE status.	7 days
B. One or more CRFA subsystems inoperable due to inoperable CRE boundary in MODE 1, 2, or 3.	B.1 Initiate action to implement mitigating actions.	Immediately
	AND	
	B.2 Verify mitigating actions ensure CRE occupant exposures to radiological chemical and smoke hazards will not exceed limits.	24 hours
	<u>AND</u>	

(continued)



Programs and Manuals (continued)

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5.5.13 Control Room Envelope Habitability Program

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Fresh Air (CRFA) System, CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under Design Basis Accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem Total Effective Dose Equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air leakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.
- d. The quantitative limits on unfiltered air leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air leakage measured by the testing described in paragraph c. The unfiltered air leakage limit for radiological challenges is the leakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air leakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.
- e. The provisions of SR 3.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered leakage, and assessing the CRE boundary as required by paragraphs c and d, respectively.

(b) SERI is required to notify the NRC in writing prior to any change in (i) the terms or conditions of any new or existing sale or lease agreements executed as part of the above authorized financial transactions, (ii) the GGNS Unit 1 operating agreement, (iii) the existing property insurance coverage for GGNS Unit 1 that would materially alter the representations and conditions set forth in the Staff's Safety Evaluation Report dated December 19, 1988 attached to Amendment No. 54. In addition, SERI is required to notify the NRC of any action by a lessor or other successor in interest to SERI that may have an effect on the operation of the facility.

C. The license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Entergy Operations, Inc. is authorized to operate the facility at reactor core power levels not in excess of 3898 megawatts thermal (100 percent power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. ~~175~~ are hereby incorporated into this license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

The Surveillance Requirements (SRs) for Diesel Generator 12 contained in the Technical Specifications and listed below, are not required to be performed immediately upon implementation of Amendment No. 169. The SRs listed below shall be successfully demonstrated at the next regularly scheduled performance.

SR 3.8.1.9,  
SR 3.8.1.10, and  
SR 3.8.1.14

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(41) Fire Protection Program

Entergy Operations, Inc. shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in Revision 5 to the Updated Final Safety Analysis Report, and as approved in the Safety Evaluations dated August 23, 1991, and September 29, 2006, subject to the following provisions:

The licensee may make changes to the approved Fire Protection Program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(42) Mitigation Strategy License Condition

The Licensee shall develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
  - 1. Pre-defined coordinated fire response strategy and guidance
  - 2. Assessment of mutual aid fire fighting assets
  - 3. Designated staging areas for equipment and materials
  - 4. Command and control
  - 5. Training of response personnel
- (b) Operations to mitigate fuel damage considering the following:
  - 1. Protection and use of personnel assets
  - 2. Communications
  - 3. Minimizing fire spread
  - 4. Procedures for implementing integrated fire response strategy
  - 5. Identification of readily-available pre-staged equipment
  - 6. Training on integrated fire response strategy
  - 7. Spent fuel pool mitigation measures
- (c) Actions to minimize release to include consideration of:
  - 1. Water spray scrubbing
  - 2. Dose to onsite responders

Insert

(43) Control Room Habitability

Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of Control Room Envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.4, in accordance with TS 5.5.13.c.(i), and the assessment of CRE habitability

Insert

as required by Specification 5.5.13.c.(ii), shall be considered met. Following implementation:

- (a) The first performance of SR 3.7.3.4, in accordance with Specification 5.5.13.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from March 2005, the date of the most recent successful tracer gas test, as stated in the June 2005 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
- (b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.13.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from March 2005, the date of the most recent successful tracer gas test, as stated in the June 30, 2005 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.

- D. The facility required exemptions from certain requirements of Appendices A and J to 10 CFR Part 50 and from certain requirements of 10 CFR Part 100. These include: (a) exemption from General Design Criterion 17 of Appendix A until startup following the first refueling outage, for (1) the emergency override of the test mode for the Division 3 diesel engine, (2) the second level undervoltage protection for the Division 3 diesel engine, and (3) the generator ground over current trip function for the Division 1 and 2 diesel generators (Section 8.3.1 of SSER #7) and (b) exemption from the requirements of Paragraph III.D.2(b)(ii) of Appendix J for the containment airlock testing following normal door opening when containment integrity is not required (Section 6.2.6 of SSER #7). These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. In addition, by exemption dated December 20, 1986, the Commission exempted licensees from 10 CFR 100.11(a)(1), insofar as it incorporates the definition of exclusion area in 10 CFR 100.3(a), until April 30, 1987 regarding demonstration of authority to control all activities within the exclusion area (safety evaluation accompanying Amendment No. 27 to License (NPF-29). This exemption is authorized by law, and will not present an undue risk to the public health and safety, and is consistent with the common defense and security. In addition, special circumstances have been found justifying the exemption. Therefore, these exemptions are hereby granted pursuant to 10 CFR 50.12. With the granting of these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act and the rules and regulations of the Commission.

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- E. The licensee shall fully implement and maintain in effect all provision of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Physical Security, Safeguards Contingency and Training and Qualification Plan," and were submitted to the NRC on May 18, 2006.